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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/677,288	10/02/2000	Andrew A. Frank	UC98-194-2US	4305

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EXAMINER

GONZALEZ, JULIO C

ART UNIT PAPER NUMBER

2834

DATE MAILED: 05/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/677,288

Applicant(s)

FRANK, ANDREW A. *MA*

Examiner

Julio C. Gonzalez

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-11, 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ibaraki et al (Patent No 6,098,733) in view of Ibaraki et al (Patent No 5,789,882).

Ibaraki et al (Patent No 6,098,733) discloses an apparatus for controlling the power at the output of an internal combustion engine, comprising an electric motor 14 coupled to the engine and a motor controller 28. Also the motor 14 comprises a motor/generator 34 and the motor controller varies positive and negative output torque (column 24, lines 1-5) and the motor 14 is coupled to a transmission 16 and the transmission is controllable comprising means for controlling the rate of change of ratio (column 24, lines 53-55). Moreover the transmission is automatic and variable (column 25, line 20) and the motor 14 is between engine 12 and transmission 16. Also, the control apparatus 28 has an electric motor 14 driving a

transmission 16 and a battery system 36 powering the electric motor 14 comprising an electric motor controller 28 connected to electric motor 14. Moreover, Ibaraki et al discloses an engine controller 42-48 connected to combustion engine.

However, Ibaraki et al (Patent No 6,098,733) does not disclose directly varying the engine output.

On the other hand, Ibaraki et al (Patent No 5,789,882) discloses for the purpose of optimizing the efficiency of the driving system and providing a surplus power that the torque can be varied depending on the need of the vehicle (see claim 5 & column 4, lines 26-30) and that the engine and electric motor may be able to be used simultaneously (column 26, lines 30-33).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design an apparatus for controlling a combustion engine as disclosed by Ibaraki et al and to modify the invention by having the engine and electric motor running simultaneously for the purpose of optimizing the efficiency of the driving system and providing a surplus power as disclosed by Ibaraki et al (Patent No 5,789,882).

3. Claims 12-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi in view of Ibaraki et al (Patent No 5,789,882).

Yamaguchi discloses a generator 3 coupled to the output of engine 2 and a generator controller 12. Also Yamaguchi discloses that the generator comprises a generator/motor (see figure 1) and that the controller varies positive and negative output torque in accordance to predetermined characteristics (column 17, lines 23-25).

However, Yamaguchi does not disclose directly varying the engine output.

On the other hand, Ibaraki et al (Patent No 5,789,882) discloses for the purpose of optimizing the efficiency of the driving system and providing a surplus power that the torque can be varied depending on the need of the vehicle (see claim 5 & column 4, lines 26-30) and that the engine and electric motor may be able to be used simultaneously (column 26, lines 30-33).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design an apparatus for controlling a combustion engine as disclosed by Yamaguchi and to modify the invention by having the engine and electric motor running simultaneously for the purpose of optimizing the efficiency of the driving system and providing a surplus power as disclosed by Ibaraki et al (Patent No 5,789,882).

6. Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi et al in view of Kawakatsu et al and Ibaraki et al (Patent No 5,789,882).

Yamaguchi discloses a shaft 25 coupled to the transmission and a generator/motor 3 coupled to engine 2, and a generator/motor controller 12 connected to generator 3 and a battery 4 connected to generator/motor controller 12. Also, Yamaguchi discloses a motor controller 12 connected to the motor 3. However Yamaguchi does not disclose a motor/generator coupled to a shaft and wheels involve in the transmission system.

On the other hand Kawakatsu et al discloses a drive shaft 9 coupled to motor/generator 3 (column 4, lines 63-67) and a battery 49 connected to the motor/generator 3 for the purpose to supply voltage to a the car's computer. Moreover, the motor/generator and motor/generator controller are part of the transmission system (see figure 3). Also, the transmission has an output driving a first wheel 17 at a first end of vehicle wheel and an electric motor 3 driving a second wheel 21 at a second end of vehicle. Also, the control means is used for varying the torque output (column 22, lines 18-22). However, neither Yamaguchi nor Kawakatsu disclose that the motor and combustion engine may function simultaneously.

On the other hand, Ibaraki et al (Patent No 5,789,882) discloses for the purpose of optimizing the efficiency of the driving system and providing a surplus power that the torque can be varied depending on the need of the vehicle (see claim 5 & column 4, lines 26-30) and that the engine and electric motor may be able to be used simultaneously (column 26, lines 30-33).

It would have been obvious to one having ordinary skill in the art to couple a shaft to the transmission system and couple a generator/motor to the engine as disclosed by Yamaguchi and to use a first wheel and a second wheel, a motor/generator and a motor/generator controller and a battery for the purpose to supply voltage to the car's computer as disclosed by Kawakatsu et al and to modify the invention by having the engine and electric motor running simultaneously for the purpose of optimizing the efficiency of the driving system and providing a surplus power as disclosed by Ibaraki et al (Patent No 5,789,882).

Response to Arguments

7. Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julio C. Gonzalez whose telephone number is (703) 305-1563. The examiner can normally be reached on M-F (8AM-5PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 305-1341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



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Jcg

May 15, 2002